

AMENDMENTS TO THE CLAIMS

Listing Of Claims

Claims 1-24 (canceled)

25. (currently amended) A semiconductor component comprising:

a substrate having a surface;

a conductive layer comprising a metal having a selected thickness substantially covering the surface configured to provide a material for forming elements of the component by laser machining;

a plurality of conductors on the surface comprising first portions of the conductive layer configured for ~~signal~~ electrical transmission separated from one another by ~~non-signal-transmitting~~ second portions of the conductive layer configured for no electrical transmission;

a plurality of grooves in the conductive layer ~~defining a size, a spacing and a shape of the conductors~~ and electrically isolating the conductors from the second portions, each groove defining a shape of a conductor and an adjacent second portion; and

~~of the conductive layer; and~~

at least one semiconductor die on the substrate in electrical communication with the conductors.

26. (currently amended) The semiconductor component of claim 25 wherein each conductor has a width as small as about 5 μ m.

~~the conductors comprise a plurality of pads and the semiconductor die is wire bonded to the pads.~~

27. (currently amended) The semiconductor component of claim 25 wherein each groove has a width as small as about 5 μ m.

~~the semiconductor die is flip chip mounted to the conductors.~~

28. (currently amended) The semiconductor component of claim 25 wherein the metal comprises copper and the selected thickness is about 18 μm .

~~substrate comprises a material selected from the group consisting of plastic, glass filled resin, silicon, ceramic, metal, germanium, and gallium arsenide.~~

29. (currently amended) The semiconductor component of claim 25 wherein the thickness of the conductive layer and a size and spacing of the conductors are selected to provide a desired impedance value for the conductors.

~~comprise a plurality of contacts adapted for electrical connection to outside circuitry.~~

30. (currently amended) A semiconductor component comprising:

a substrate having a surface;

a conductive layer comprising a metal having a selected thickness substantially covering the surface configured to provide a material for forming elements of the component by laser machining;

a plurality of conductors on the surface comprising portions of the conductive layer configured for ~~signal~~ electrical transmission, the conductors separated from one another by ~~non-signal transmitting~~ remaining portions of the conductive layer configured for no electrical transmission, each conductor having a width as small as about 5 μm ;

a plurality of grooves in the conductive layer defining ~~a sizes~~ a spacing and a ~~a~~ and shapes of the conductors and the remaining portions, each groove having a width as small as about 5 μm ; and

~~conductor electrically isolated from the remaining portions of the conductive layer by a groove on either side; and~~

~~at least one semiconductor die flip chip mounted or wire bonded to the substrate in electrical communication with the conductors.~~

31. (currently amended) The semiconductor component of claim 30 wherein the metal comprises copper and the selected thickness is about 18 μ m.
~~further comprising a plurality of contacts on the conductors adapted for electrical connection to outside circuitry.~~

32. (previously presented) The semiconductor component of claim 30 further comprising a plurality of conductive vias in the substrate in electrical communication with the conductors and with a plurality of contact balls on a second surface of the substrate.

33. (previously presented) The semiconductor component of claim 30 wherein the component comprises a chip module, a multi chip module or a package.

34. (previously presented) The semiconductor component of claim 30 further comprising an encapsulant at least partially covering the semiconductor die and at least a portion of the surface.

35. (currently amended) A semiconductor component comprising:

a substrate having a surface;

a conductive layer comprising a metal having a selected thickness substantially covering the surface configured to provide a material for forming elements of the component by laser machining;

a plurality of conductors on the surface comprising first portions of the conductive layer configured for ~~signal~~ electrical transmission;

a plurality of grooves in the conductive layer defining and electrically isolating ~~and defining a size, a spacing and a shape of~~ the conductors;

a plurality of second portions of the conductive layer defined by the grooves and configured to separate the conductors without electrical transmission therethrough;
and

~~, each conductor defined by a pair of grooves on either side and separated from an adjacent conductor by a non-signal transmitting second portion of the conductive layer having an edge defined by a groove; and~~

a semiconductor die on the substrate in electrical communication with the conductors.

36. (currently amended) The semiconductor component of claim 35 wherein the conductors have a width as small as about 5 μm .

~~die is flip chip mounted or wire bonded to the conductors.~~

37. (currently amended) The semiconductor component of claim ~~35~~ 36 wherein the grooves have a width as small as about 5 μm .

~~conductors comprise a plurality of pads bonded to the die and a plurality of contacts adapted for electrical connection to outside circuitry.~~

38. (currently amended) The semiconductor component of claim ~~35~~ 37 wherein the selected thickness of the conductive layer is about 18 μm .

~~substrate comprises a semiconductor material and an electrically insulating layer on the surface.~~

39. (currently amended) The semiconductor component of claim ~~35~~ 38 wherein the metal comprises copper.
~~substrate comprises a material selected from the group consisting of plastic, glass filled resin, ceramic, silicon, metal, germanium, and gallium arsenide.~~

Claims 40-46 (canceled)

47. (currently amended) A semiconductor component comprising:

a substrate having a surface;

a conductive layer comprising a metal having a selected thickness substantially covering the surface configured to provide a material for forming elements of the component by laser machining;

a plurality of conductors on the surface comprising portions of the conductive layer configured for ~~signal~~ electrical transmission;

a plurality of grooves in the conductive layer electrically isolating ~~and defining a size, a shape and a spacing of~~ the conductors, each conductor having opposing edges defined by a pair of grooves, ~~each conductor having non-signal transmitting and~~ remaining portions of the conductive layer on either side separated from the opposing edges by the pair of grooves; and

at least one a semiconductor die on the substrate in electrical communication with the conductors.

48. (currently amended) The semiconductor component of claim 47 wherein the thickness of the conductive layer and a size and spacing of the conductors are selected to provide a desired impedance value for the conductors.
~~semiconductor die is flip chip mounted or wire bonded to the conductors.~~

49. (previously presented) The semiconductor component of claim 47 wherein each conductor has a first width of about 5 μm .

50. (previously presented) The semiconductor component of claim 47 wherein each groove has a second width of about 5 μm .

51. (previously presented) The semiconductor component of claim 47 wherein the conductive layer includes an opening for attaching the die to the substrate.

52. (currently amended) A semiconductor component comprising:

- a substrate having a surface;

- a conductive layer substantially covering the surface comprising a metal configured to provide a material for forming elements of the component by laser machining;

- a plurality of conductors on the surface having a size, a spacing, and a shape defined by a plurality of grooves through the conductive layer, each conductor comprising a first portion of the conductive layer configured for ~~signal~~ electrical transmission separated from an adjacent conductor by a groove and a second portion of the conductive layer which is not configured for ~~signal~~ electrical transmission, with a thickness of the conductive layer and a size and spacing of the conductors selected to provide a desired impedance value for the conductors;

- a plurality of conductive vias through the substrate in electrical communication with the conductors; and

- a semiconductor die on the substrate in electrical communication with the conductors.

53. (currently amended) The semiconductor component of claim 52 wherein the size and the spacing of the conductors is as small as about 5 μm .

~~further comprising a plurality of contacts on the substrate
in electrical communication with the conductive vias.~~